

REMARKS

Examiner F. Erdem is thanked for the thorough examination and search of the subject Patent Application. Claims 1-16, 19, 20, 24, 28 and 25 are canceled.

All Claims are believed to be in condition for Allowance, and that is so requested.

Reconsideration of Claims 17, 18, 21-23, 26, and 27 rejected under 35 U.S.C. 102(e) as being anticipated by Zhou et al 6,156,598 is requested based on the following remarks.

Applicant respectfully disagrees with Examiner's conclusions regarding the teachings of Zhou et al. In particular, Examiner indicates that Zhou et al discloses a liner oxide layer overlying the conductive traces in the Abstract section, in the Brief Description section, and in Claims 1, 10, and 16. Applicant agrees that a liner oxide layer is mentioned in these sections and claims. However, Applicant's claimed invention clearly defines a device having the following **two key features occurring simultaneously: (1) a liner oxide layer covering the sidewalls and the top of the polysilicon trace** (Claim 17, lines 7-11; Claim 22, lines 7-11; and Claim 26, lines

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7-11), **AND (2) an L-shaped silicon nitride spacer** (Claim 17, lines 12-16; Claim 22, lines 12-18, and Claim 26, line 12-17).

These distinctive features are clearly shown in, for example, Claim 17:

17. (Previously Presented) A MOSFET device comprising:  
a gate comprising a polysilicon trace overlying a semiconductor substrate with an insulator therebetween;  
a source region and a drain region in said semiconductor substrate with said polysilicon trace laterally between said source and drain regions;  
a liner oxide layer overlying said polysilicon trace wherein said liner oxide layer covers sidewalls of said polysilicon trace at said source and drain regions and  
10 **wherein said liner oxide layer covers the top of said polysilicon trace;** and  
silicon nitride spacers wherein said liner oxide layer is laterally between said silicon nitride spacers and said polysilicon trace at said source and drain regions and  
15 **wherein said silicon nitride spacer has an L-shaped profile.**

Claims 22 and 26 contain similar limitations.

By comparison, Zhou et al never discloses the combined features of a liner oxide layer covering the top of the polysilicon trace AND of an L-shaped silicon nitride spacer occurring at the same time in the same device. Figs. 2-5 appear to show an L-shaped layer 40A by do not show a liner oxide layer overlying the gate 22. Applicant disagrees that Zhou et al teaches the presence of a liner oxide overlying the polysilicon trace as is taught in Applicant's invention on the following grounds. First, Zhou et al indicates that a liner oxide layer 30 may be formed on the gate structure 20. However, since the liner oxide layer 30 is not shown in any of the drawings, it is indefinite as to where this layer 30 is actually formed. Applicant cannot determine if this liner oxide layer 30 is formed on the top surface of the gate structure 20, on the sidewalls, under the gate structure 20, or some combination thereof. It is not, therefore, reasonable to use the teachings of the formation of the liner oxide layer 30 as proof of anticipation of Applicant's claimed invention since this teaching of Zhou et al is indefinite.

Further, Applicant observes that Zhou et al indicates that the liner oxide layer 30, if used, may be employed as an etch stop for the dielectric spacer etch (col. 4, lines 28-30).

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However, this observation does prove that the liner oxide layer 30 remains overlying the gate structure 40 for several reasons. First, since the liner oxide layer 30 is never shown, it is not at all clear that the liner oxide layer 30 is ever overlying the gate structure 20 as indicated above. Second, there are many examples of etch stop layers where the etching material is partially or completely consumed during an etching process for which it is employed as the stopping indicator. Therefore, the optional application of the liner oxide layer 30 as an etch stop is, again, not proof that any of the liner oxide layer remains overlying the gate structure after the etch to produce L-shaped silicon nitride spacers. Hence, this line of reasoning again produces an inconclusive result.

Further, Zhou et al clearly shows layers 40 and 50 overlying the gate structure 20 in Fig. 1 and then shows no layers overlying the gate structure 20 in Fig. 2 after the spacer etching. Therefore, it would not be reasonable to assume that a liner oxide layer, that is never shown, is maintained overlying the top of the polysilicon when the layers that are shown 40 and 50 are not maintained.

The above observations are consistent with the references to the liner oxide layer in column 2, lines 40-41 and lines 49-

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50. These references are in a summary section and add no further definitiveness to the location of the liner oxide layer, which is only described as 'on' but not specified as on the top surface, or to the final disposition of the liner oxide layer, which is described as potentially acting as an etch stop layer without indicating if the liner layer remains (or ever is) over the top surface of the gate structure, post etching. Further, these observations regarding the summary section are completely consistent with the references in the Abstract since the text in the summary and in the Abstract is identical.

In summary, Applicant respectfully submits that Zhou et al should not be used to prove anticipation of Applicant's claimed invention, as recited in independent Claims 17, 22, and 26. The liner oxide layer described by Zhou et al is not described in such a way as to provide a definitive conclusion that this layer is ever located over the gate structure and, if so located, that this layer remains located over the gate structure after etching of the spacers (Fig. 2). It should not be concluded, therefore, that Zhou et al teaches the simultaneous presence of a liner oxide layer covering the top of the polysilicon AND of L-shaped silicon nitride spacers. Applicant believes that these observations make the teachings of Zhou et al, with respect to the combined presence of the key features, too indefinite to

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render a finding of rejection under 35 U.S.C. 102(e) due to anticipation by Zhou et al. Zhou et al simply does not appear to provide definitive proof of anticipation of Applicant's claimed invention.

Therefore, Applicant respectfully requests that the rejection of independent Claims 17, 22, and 26 under 35 U.S.C. 102(e) be rescinded. Further, Claims 18, 21, 23, and 27 represent patentably distinct, further limitations of Claims 17, 22, and 26 and that, likewise, should not be rejected under 35 U.S.C. 102(e).

Reconsideration of Claims 17, 18, 21-23, 26, and 27 rejected under 35 U.S.C. 102(e) as being anticipated by Zhou et al 6,156,598 is requested based on the above remarks.

Applicants have reviewed the prior art made of record and not relied upon and have discussed their impact on the present invention above.

Allowance of all Claims is requested.

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It is requested that should the Examiner not find that the Claims are now Allowable that the Examiner call the undersigned at 989-894-4392 to overcome any problems preventing allowance.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'SBA', is written over the printed name.

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